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IS 13679 (1993): Okra Seed Oil Specification [FAD 13: Oils and Oilseeds]

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IS 13679 : 1993

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भारतीय मानक

भिंडी के बीज के तेल – विशिष्टि

Indian Standard

OKRA SEED OIL — SPECIFICATION

UDC 665·3 [635·648]

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

May 1993

Price Group 1

Oils and Oilseeds Sectional Committee, FAD 44

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Oils and Oilseeds Sectional Committee had been approved by the Food and Agriculture Division Council.

Okra (*Bhindi*) *Abelmoschus esculentus* (syn *Hibiscus esculentus*) is a well known horticultural crop and its fruits are extensively used as a vegetable. As mild temperature, subtropical or tropical conditions are suitable for okra crop, many parts of India are suitable for its cultivation. The production of okra seed is presently limited to seedling and regeneration purposes. However, large quantities of the seed are being discarded as unfit for seedling purposes which can be used for extraction of oil.

The fatty acid composition of okra seed oil indicates approximately 23 percent oleic acid, 39 percent linoleic acid, 32 percent palmitic acid, 4 percent stearic acid, 0·2 percent myristic acid and 0·4 percent palmitoleic acid.

This Indian Standard is based on the data provided by JNTU Oil Technological Research Institute, Anantapur.

The standard has been formulated in order to facilitate the production and availability of a uniform quality of this oil. It is expected that this will consequently contribute to the vegetable oil resources in the country. Edible use of refined oil can also be envisaged. However, specification for edible grade of okra seed oil is yet to be included under the provisions of the *Prevention of Food Adulteration Act 1954* and *Rules* framed thereunder.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

OKRA SEED OIL — SPECIFICATION

1 SCOPE

1.1 This standard prescribes the requirements and methods of sampling and test for okra seed oil.

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
548 (Part 1) : 1964	Methods of sampling and test for oils and fats : Part 1 Sampling, physical and chemical tests (*revised*)
548 (Part 2) : 1976	Methods of sampling and test for oils and fats : Part 2 Purity tests (*third revision*)
548 (Part 2/ Sec 9) : 1988	Methods of sampling and test for oils and fats : Part 2 Purity test, Section 9 Test for presence of Karanja (*Pungam*) oil in other oils (*fourth revision*)
548 (Part 2/ Sec 21) : 1985	Methods of sampling and test for oils and fats: Part 2 Purity tests, Section 21 Test for detection of animal fat in vegetable oils and fats and *vice-versa* by GLC (*fourth revision*)
1070 : 1992	Reagent grade water (*third revision*)
1448 [P : 21] : 1970	Methods of test for petroleum and its product : [P : 21] Flash point (closed) by Pensky-Martens apparatus (*second revision*)
11476 : 1985	Glossary of terms relating to oils and fats

3 TERMINOLOGY

3.1 For the purpose of this standard, the definitions given under IS 11476 : 1985 shall apply.

4 GRADES

4.1 The material shall be of the following two grades:

a) Raw, and

b) Refined.

5 REQUIREMENTS

5.1 The material shall be obtained from the clean and sound seeds of okra, *Abelmoschus esculentus* (syn *Hibiscus esculentus*) by a process of solvent extraction.

5.2 The material shall be clear and free from rancidity, adulterants, sediments, suspended and other foreign matter, separated water and added colouring and flavouring substances.

5.2.1 The clarity of the material shall be judged by the absence of turbidity after keeping the filtered sample at 30°C for 24 hours.

5.3 Admixture with Other Oils

The material shall be free from admixture with other oils and adulterants when tested by the methods given in IS 548 (Part 2) : 1976 as well as Section 9 and 21 of IS 548 (Part 2).

5.4 The material shall also comply with the requirements given in Table 1.

6 PACKING AND MARKING

6.1 Packing

The material shall be packed in suitable, well-closed containers as agreed to between the purchaser and the supplier.

6.2 Marking

The containers shall be marked with the following information:

a) Name and grade of the material;

b) Net mass of the contents;

c) Manufacturer's name and/or his recognized trade-mark, if any;

d) Batch or lot number in code or otherwise; and

e) Month and year of manufacture.

7 SAMPLING

7.1 Representative samples of the material shall be drawn in accordance with **3** of IS 548 (Part 1) : 1964.

8 METHODS OF TEST

8.1 Tests shall be carried out according to the methods prescribed in IS 548 (Part 1) : 1964, IS 548 (Part 2) : 1976 and IS 1448 (Part 21) : 1970 reference to which has been made under **5.3** and **5.4** and col **5** of Table 1 of the standard.

9 QUALITY OF REAGENTS

9.1 Unless specified otherwise pure chemicals and distilled water (*see* IS 1070 : 1992) shall be used in the tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which effect the results of analysis.

Table 1 Requirements for Okra Seed Oil

(*Clauses* 5.4 *and* 8.**1**)

Sl No.	Characteristic	Requirements for Grade		Method of Test	
		Raw	Refined	Ref to Clause No. in IS 548 (Part 1) : 1964	Ref to IS 1448
(1)	(2)	(3)	(4)	(5)	
i)	Moisture and insoluble matter, percent by mass, *Max*	0·5	0·1	5 and 6	—
ii)	Colour in 1/4 inch cell on the Lovibond scale, expressed as Y+5R, not deeper than	35	8	13	—
iii)	Refractive index at 40°C	←1.462 0 — 1·470 0→		10	—
iv)	Specific gravity at 30°/30°C	←0·916 0 — 0·919 0→		11	—
v)	Saponification value	←192 — 200→		15	—
vi)	Iodine value (Wijs)	←75 — 100→		14	—
vii)	Acid value, *Max*	15·0	0·5	7	—
viii)	Unsaponifiable matter percent by mass, *Max*	1·5	1·5	8	—
ix)	Halphen test	Positive	Positive	7	—
x)	Flash point, Pensky-Martens (closed) °C, *Min*	100	250		[P : 21]

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Doc : No. FAD 44 (5)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Printed at Printwell Printers, Aligarh, India